New center, Crown of the Continent Learning Center in Glacier National Park, aims to boost park research

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An enhanced satellite image of the Atlantic Ocean and western Europe is a profound example of modern science for Leigh Welling, director of the new Crown of the Continent Learning Center in Glacier National Park.

By Jim Mann, The Daily Inter Lake

To Welling, the image on her computer screen shows a connectivity and detail of the planet that has been available only in recent decades. It's a special time for science, says Welling, who aims to bring regional, national, even worldwide connectivity to scientific research and education in Glacier.

Twenty years ago, a weather forecaster would tend to focus mostly on the weather just beyond the horizon. Now scientists and forecasters use modeling software that examines complete hemispheres of the planet. "How can something going on in the equatorial Pacific affect rainfall in Glacier National Park?" she asks. "Well, it does. Only in the last couple of decades have we really gotten an idea how this works. To me, that's mind-blowing. The first time we changed that was with the first picture from the moon." The images that followed tore down the local and regional perspectives for how people and scientists viewed the earth. "It's a system," said Welling, who holds a doctoral degree in marine micropaleontology.

While that discipline may seem specialized, Welling says her focused studies led her to look at the world as a system. Her doctoral research involved studying microfauna in ocean floor sediments and the water column above the ocean floor. It revealed the types of organisms that were living hundreds or thousands of years ago, and the environments they were living in. "I wanted to know what past oceans looked like, what past climates looked like," she said.
Her studies were combined with those of scientists from other disciplines, using technology that has revolutionized earth science. "I felt like I was involved in the evolution of science," said Welling, who spent some of her childhood in Ekalaka and was an undergraduate at Montana State University.

Welling's interest in education led her to the director's position at the Northern Great Plains Center for People and the Environment at the University of North Dakota. That job put her in contact with scientists across the country, including Dan Fagre, a prominent U.S. Geological Survey climatologist based at Glacier Park.
Welling considers Fagre a prime example of what's needed in science education: people with the ability to discuss extremely complicated topics in a way that nonscientists can understand. "You have to communicate a high level of

knowledge, but you have to do that in a way that's understandable," Welling said. "It's not dumbing down."

The Crown of the Continent Learning Center was one of 32 centers established under the National Park Service's Natural Resource Challenge, a program aimed at energizing scientific research and education after a period of decline. "Preserving Nature in the National Parks," a book that describes the National Park Service's conversion to an agency catering to tourism rather than ecological preservation, is considered the impetus for the Natural Resource Challenge. Learning centers that are already established, such as one in Rocky Mountain National Park, have actively recruited researchers with simple things like work space and bunk houses. The learning centers have coordinated their findings with other scientists and park managers — a significant change for managers who have not always been aware of the research that comes from their parks. Glacier's learning center was one of the first 13 learning centers to be funded. Welling started work at the end of December, moving from her job in North Dakota, and is now organizing two converted park staff homes as the learning center's headquarters.

"It's not going to be just this building," she says, sitting among unpacked boxes in the main house. "I'm going to be working with people all over the place. You can do research on Glacier National Park and be in Georgia. You don't have to be here or be here all the time." In the months to come, Welling intends to see how organizations such as the Glacier Natural History Association and the Glacier Institute work. She will examine the relationships between visiting researchers, Geological Survey and park scientists, and park management. So far, it's premature to outline the precise programs and initiatives the learning center will pursue, Welling said. "I'm excited about the things that are already here," she said. "We overlap with many areas. But we aren't duplicating anyone." The learning center will be geared toward promoting new research in the park through practical means such as grant writing and establishing a laboratory and dormitory housing for visiting scientists.

But a key component of the learning center will be enhancing information sharing between scientists, park managers, learning institutions and the public. "I think of it as an information flow, and it should always move in different directions," Welling said. "I see myself as a facilitator to sort of connect the dots."

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